CLAIMS

[Claim(s)]
[Claim 1] The mobile for players concerning play, and one or more of other mobiles of the circumference with the symbol of the aforementioned mobile for players While fixing the aforementioned symbol to the main display screens of play on the aforementioned display means in the electronic play device displayed on a display means in piles as a radar map One or more aforementioned radar cover information for radar maps is set up. Establish the change means operated by the aforementioned player and one of the aforementioned radar cover information is chosen based on the signal from the aforementioned change means. While changing the radar cover which carried out [aforementioned] selection according to change of the position and travelling direction accompanying advance of the play of the aforementioned mobile for players The electronic play device characterized by moving and rotating relatively the mobile besides the above which entered in the aforementioned radar cover to the aforementioned symbol, and making it display on the aforementioned display means.
[Claim 2] The electronic play device according to claim 1 which made different color the foreground color of the aforementioned symbol, and the foreground color of the mark for mobiles besides the above.
[Claim 3] The electronic play device according to claim 1 or 2 to the aforementioned change means which chose the aforementioned radar cover information in specific sequence for every operation.
[Claim 4] The electronic play device according to claim 1 to 3 which change of a display visual field advances continuously gradually, and the change of a radar cover ends in case the display screen changes from the radar cover which has answered the operation to the aforementioned change means to other radar covers.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] Especially this invention relates the state of the effective circumference under movement to the so-called electronic play device which indicates by the radar map in piles in some animation screens main to the display screen, when a play person (it is hereafter called a player) controls mobiles, such as a vehicle and an airplane, and does other mobiles and play about an electronic play device.
[0002]
[Description of the Prior Art] When a player controls a mobile and considers play, such as a game, as other mobiles conventionally, the electronic play device indicates the whole move field of a mobile or the part of the circumference of it by the course map with a mobile, and it was made to transmit the positional information of the configuration of a course or other mobiles to a player correctly

is proposed by these people (Japanese-Patent-Application-No. No. 279513 [four to] official report). Moreover, the electronic play device which provided the player with the display screen which carries out 3 dimensional calculation processing of the main animation screens of play from three-dimensions solid data, and has a cubic effect and a sense of reality more is also proposed by these people (Japanese-Patent-Application-No. No. 179040 [four to] official report).
[0003] Although move play is enjoyed carrying out 3 dimensional calculation processing and generating the main animation screens especially in this conventional electronic play device and a driving game is in one The vehicle which a player drives while displaying the miniature 220 of a drive course on a position with the circumference of the main animation screens 200 which are the visual field images from the view (or the back) of a player in this game, as shown, for example in drawing 6 (it is hereafter called a player car.) By carrying out the light-spot display 222 grade of 210 on the course, the current position on a course is shown in a player.
[0004]
[Problem(s) to be Solved by the Invention] In the conventional electronic play device which was mentioned above, it is required to supervise AZAKA 302 copied by the reflector glass 300 in order to know the situation around a player car, especially the move state of other vehicles (it is hereafter called AZAKA.) acting as the obstacle of advance. However, if the data for an environmental display and mobile indicative datas, such as a drive course, are memorized by memory etc. as three-dimensions solid data (polygon data), carry out 3 dimensional calculation processing and the main animation screens come to be generated The image of a background reflected to a reflector glass 300 must also carry out 3 dimensional calculation processing of a huge amount. By the performance of the present processing unit (hereafter referred to as MPU), and an auxiliary processing unit (it is hereafter called a co-processor), it became impossible to generate both the screens of a front three-dimensions screen and the three-dimensions screen for reflector glasses on real time.
[0005] Moreover, at a reflector glass, only the situation in the field of view of a mirror was understood, but when the situation of AZAKA of the longitudinal direction which AZAKA in a back dead angle and right and left are running in parallel in the game to enjoy wanted to know throwing a vehicle or being thrown, there was also a trouble of understanding nothing. This invention is made from the above situations and the purpose of this invention is to offer the electronic play device which crosses quickly other surrounding positions and travelling direction of a mobile of a player car to a 360-degree omnidirection correctly, and was made to carry out radar display.
[0006]
[Means for Solving the Problem] This invention is a thing about an electronic play device. the above-mentioned purpose of this invention The mobile for players concerning play, and one or more of other mobiles of the circumference with the symbol of the aforementioned mobile for players While fixing the aforementioned symbol to the main display screens of play on the aforementioned display means in the electronic play device displayed on a display means in piles as a radar

map One or more aforementioned radar cover information for radar maps is set up. Establish the change means operated by the aforementioned player and one of the aforementioned radar cover information is chosen based on the signal from the aforementioned change means. While changing the radar cover which carried out [aforementioned] selection according to change of the position and travelling direction accompanying advance of the play of the aforementioned mobile for players It is attained by moving and rotating relatively the mobile besides the above which entered in the aforementioned radar cover to the aforementioned symbol, and displaying on the aforementioned display means.

[0007]

[Function] If it is in this invention, while the mobile for players is fixed on the display screen, and being able to change the detection range of a radar now by the change means, crossing to 360-degree omnidirection and approach of other mobiles and signs that it deserts being able to express intelligibly for a radar map, the operation time can be shortened sharply.

[0008]

[Example] Hereafter, based on a drawing, the example of this invention is explained in detail. A drive game is explained as an example. In this invention, while displaying in piles the course map which shows the whole move field of a mobile to the position of an indicator-chart side as well as the former on the main animation pictures, a player car is fixed and displayed on another display position of the same display screen, and all AZAKA that invaded into the predetermined radar cover of the circumference of it is displayed with a position and travelling direction into a radar map centering on a player car fixed on display [above-mentioned]. Therefore, when a player advances play and a player car runs, while it turns out which position of the whole move field the self-vehicle is running on the course map, it can sense without a dead angle whether the other vehicles of a competitor are running to the right and left and back space near the circumference of a self-vehicle in the direction of how many sets and which, and the key which builds the optimal play strategy is acquired.

[0009] Drawing 1 is the block diagram showing one example of the hardware composition in the electronic play device of this invention. In this drawing, while MPU102 reads and performs a play program from ROM106 in which a game program and data were written, various data, such as the progress, score, etc., are written by reading and RAM106. A co-processor 104 operates synchronizing with MPU102, works especially as assistance of numerical calculation, and calculates coordinate transformation etc. at high speed. The control unit 10 which consists of a change means, an accelerator, handles, etc., such as a push button formula radar cover / view, is connected to the data-processing section 100 by using the input interface 110 as an entrance, and the operation of a player is inputted into MPU102 through a control unit 10 and the input interface 110. The ODI signal which sound equipment 108 generated a predetermined sound effect, an alarm tone, artificial-voice instructions, etc. based on directions of MPU102, and was generated there is amplified by the audio amplifier which is not illustrated, and an audio output is carried out through the loudspeaker 20 connected to the data-processing section 100.

[0010] In the memory which carried out the deer and was built in the data-processing section 100 The environmental PORIKON data memory 120 for expressing three-dimensions play environment, such as a drive course, as a color three-dimensions solid of a polyhedron, The data memory 122 for player cars which memorizes the current position under movement of the three-dimensions solid data for a player car display and a player car, travelling direction, speed, etc., Usually, as for RAM/ROM106, the data memory 124 for AZAKA which memorizes two or more three-dimensions solid data for an AZAKA display of a base, current positions of each AZAKA, speed, etc. is formed independently.

[0011] Furthermore, the view position data memory 130 which pinpoints the view position chosen by the change means 10, The radar contact range data memory 130 for specifying the radar cover in which change selection is similarly carried out by the change means 10 is also built in the data-processing section 100. When a view/radar cover changes by the change means 10, so that the shift to these change positions may be smoothly displayed on the display screen The output data of data memory 130 are written in the parameter memory 140 for animation generation, the parameter memory 144 for radar maps, and the parameter memory 142 grade for course maps through the interpolation move section 132.

[0012] Moreover, while three-dimensions solid data are suitably extracted from memory 120, 122, and 124 and are written in the parameter memory 140 for animation generation, current position data, travelling-direction data, etc. of a player car and AZAKA are extracted from data memory 122 and 124, it is written in the parameter memory 144 for radar maps, and course map data and the current position data of a player car are further written in the parameter memory 142 for course maps by MPU102.

[0013] If view position data, three-dimensions polygon data, the current position data of a mobile, radar contact range data, etc. are stored in the parameter memory 140 and 142, while three-dimensions polygon data etc. will be projected on display system of coordinates by coordinate transformation equipment 150 in this way, the depth data of each polygon are called for and the 2-dimensional polygon data for a display sorted by depth data are outputted to polygon paint equipment 152.

[0014] Furthermore, color coating processing in a 2-dimensional polygon etc. is performed, the result is written in a frame memory 154, and the content of a frame memory 154 is read one by one at a television rate, is changed into a video signal by the DA translation means which is not illustrated, and is expressed to the monitor TV 30 which is a display means as polygon paint equipment 152.

[0015] Next, view change / setting operation and radar cover change / setting operation by the change means 10 are explained. First, the view of a display image is changed based on the intention of a player, and a game start switch may be made to arrange the change means 10 in parallel, and it may be established, or may be made to use also [switch / game start], or you may make it equip a handle with it in view change operation in which the change meanses

10, such as a pushdown switch, were used.
[0016] A deer is carried out, two or more cockpits of a player car are beforehand chosen as a reference point, and the view position which makes a change change sets them up, as shown in drawing 2 . This drawing shows the example which set up four views as an example, and, for view **, "a little the back of a self-vehicle" and view ** are ["the back low altitude of a self-vehicle" and view ** of "the view of a player" and view **] "the back altitude of a self-vehicle." The concrete three-dimensions coordinate to each [these] view which made the cockpit of a player car the zero is written in the view position data memory 130 as a relative-position vector value. and only the number of views prepares a pushdown switch in parallel as a change means 10, each switch may be made to correspond to view ** - **, respectively, one circuit changing switch is prepared, and this switch is pushed -- ** -- it is alike and the view changes sequentially -- him (for example, view **-> view **-> view **-> view **-> view **) -- ******** -- it is good
[0017] A radar cover is changed based on the intention of a player, and a game start switch may be made to arrange this change means 10 in parallel, and it may be established, or may be made to use also [circuit changing switch / view / a game start switch or], or you may make it equip a handle with it on the other hand by radar cover change operation in which the change meanses 10, such as a pushdown switch, were used. And as a reference point, two or more ranges are chosen and the radar cover which makes a change change sets up the cockpit of a player car beforehand, as shown in drawing 7 . This drawing shows the example which carried out 4 setting outs of the radar cover as an example, and is the example set up so that the detection range might be spatially expanded one by one towards partition ** to **. The concrete three-dimensions coordinate to each [these] detection partition is written in the radar contact range data memory 130 as a relative-position vector value by making the cockpit of a player car into a zero. And whenever only the number of radar covers prepares a pushbutton switch in parallel as a change means 10, and it may make each switch correspond to detection range ** - **, respectively, it prepares a circuit changing switch and it pushes this switch, the detection range may change sequentially and may make it like (for example, partition **-> partition **-> partition **-> partition **-> partition **).
[0018] If an accelerator will be first stepped on by the player if the operation is explained with reference to a drawing, and a drive game etc. is started in such composition The direction of an accelerator and a handle is checked by MPU102 through the change means 10 and the input interface 110 for every predetermined period (in for example, 1 / 60-second unit). The current position and travelling-direction data under course movement of a player car are changed, and the content of the data memory 122 for player cars is updated. On the other hand, two or more current positions and travelling-direction data of AZAKA which have participated in this drive game are also updated to this timing, respectively, and the content of the data memory 124 for AZAKA is rewritten.
[0019] Next, the output of the change means 10 is inputted into MPU102, and

while it is confirmed whether change operation of a view position was performed, it is confirmed whether change operation of a radar cover was performed.
[0020] For example as default data, the interpolation move section 132 does not operate, but if neither of the change operations is performed, since view position ** and radar contact partition ** were chosen and there was no change operation this time, while the three-dimensions data of view position ** are read from data memory 130 and written in the parameter memory 140 for an environmental display, the three-dimensions data of radar contact partition ** are read from data memory 130, and it is written in the parameter memory 144 for radar maps.
[0021] Next, MPU102 performs three-dimensions animation generation processing. In this processing, the check of the three-dimensions polygon data for animation display stored in data memory 120 or 124 by MPU102 is performed first, all the possible three-dimensions polygons of watching from view position ** on the basis of a player car at present are extracted, and it is written in the parameter memory 140 for animation generation. If this processing sets the direction vector of the view for example, in view position ** to v and normal BEKUTORI of a three-dimensions polygon is set to n, it should just extract the three-dimensions polygon data with which are satisfied of the following formula by MPU102.
[0022]
[Equation 1] Hide v-n>0 and all the three-dimensions solid data stored in the environmental polygon data memory 120, the data memory 122 for player cars, and the data memory 124 for AZAKA are checked. If the possible three-dimensions polygon of watching from at present view position ** is extracted The distance between these three-dimensions polygons and view position ** (or depth data) is calculated by MPU102, and it receives in each field-of-view direction. Based on depth data, an above-mentioned three-dimensions polygon is sorted so that only the polygon respectively near view position ** may remain, and the parameter memory 140 for animation generation restores.
[0023] After an appropriate time, the three-dimensions polygon data by which the view position vector and the **** were sorted with coordinate transformation equipment 150 are read from the parameter memory 140 for animation generation, an animation generation operation is performed, the 2-dimensional polygon data for a display are generated, and it is transmitted to polygon paint equipment 152. Furthermore, with polygon paint equipment 152, if the wireframe data of the 2-dimensional polygon for a display are received, it will smear away for color information, such as a hue which had the interior specified, saturation, and lightness, and the 2-dimensional polygon which carried out color coloring will be written in a frame memory 154. This situation is shown in 200 of drawing 4 . In this way, three-dimensions dynamic-image generation processing of the environment in view position ** and a mobile is completed.
[0024] Then, MPU102 performs course map generation processing. In this processing, while 2-dimensional course map data are extracted from the environmental polygon data memory 120 and written in the parameter memory 142 for course maps, the current position data of a player car and the player car symbol data for course maps are extracted from the data memory 122 for player

cars, and it is written in the parameter memory 142 for course maps.
[0025] After an appropriate time, above-mentioned 2-dimensional course map data are changed into the position of the display screen by coordinate transformation equipment 150, coloring processing is further carried out by polygon paint equipment 152, and it is written in a frame memory 154. This situation is shown in 220 of drawing 4 . Moreover, it is changed into the position on a course map by coordinate transformation equipment 150, coloring processing is carried out by polygon paint equipment 152, and a player car symbol is also written in a frame memory 154. This situation is shown in 222 of drawing 4 .
[0026] Next, MPU102 performs radar map generation processing. In this processing, already, turning on and off of the radar cover change means 10 is checked in the parameter memory 144 for radar maps, and the detection space data of radar contact partition ** are written in it. Then, while the current position of player car P-CAR and the player car symbol data for radar maps are read from the data memory 122 for player cars and being first written in the parameter memory 144 for radar maps, radar contact partition ** on the basis of P-CAR is set up (Step S2).
[0027] Next, the radar scope when looking at this detection partition ** from the view position of a predetermined distance over P-CAR is calculated for a predetermined scale factor by coordinate transformation equipment 150, and is written in the position of a frame memory 154 through polygon paint equipment 152 (step S4). It is shown in the rectangle 230 at the upper right of drawing 4 by making this situation into an example. Then, after player car symbol data are read from the parameter memory 144 for radar maps by coordinate transformation equipment 150 and are carried out in predetermined coordinate transformation, coloring processing is carried out by polygon paint equipment 152, and it is written in the radar map mid gear of a frame memory 154 (Step S6). It is shown in 232 of drawing 4 by making this situation into an example.
[0028] In this way, after the current position of a player car and initial setting of radar contact partition ** are completed, it checks [whether radar contact can be carried out and] to all AZAKA O-CAR. First, the current position of the first O-CAR is read from the data memory 124 for AZAKA (Step S8), and the relative position of this O-CAR and P-CAR is calculated by MPU102 (Step S10). Then, it checks (Step S12), and if it is within the limits of partition ** whether the above-mentioned relative position is contained in the range of radar contact partition **, it will read AZA car symbol data from the data memory 124 for AZAKA with the position of AZAKA, and travelling direction, and will write in the parameter memory 144 for radar maps. Next, if coordinate transformation equipment 150 was started, after AZA car symbol data will be read with the current position and travelling-direction data and will be carried out in predetermined coordinate transformation, coloring processing is carried out by polygon paint equipment 152, and it is written in a frame memory 154 (Step S14). It is shown in 234 of drawing 4 by making this situation into an example.
[0029] On the other hand, if radar contact section ** is out of range, the above-mentioned AZAKA display step S14 will be skipped, and it will be confirmed

whether radar contact processing was completed to all O-CAR (Step S16). And if the radar contact processing to all O-CAR is not completed, the current position of following O-CAR is read from the data memory 124 for AZAKA (Step S18), and it returns to Step S10. On the other hand, after the radar contact processing to all O-CAR is completed, a radar map display routine is ended. Henceforth, animation generation processing, above-mentioned course map display processing, and above-mentioned radar map display processing are repeated by predetermined every time (for example, 1 / 60 seconds).

[0030] In addition, although above-mentioned explanation explained the radar cover as a space partition of a rectangular parallelepiped as shown in drawing 7 , the radar cover of globular form or ellipse type is also employable. Moreover, although above-mentioned explanation explained the example as which both display a course map and a radar map on the main animation screens in piles, the display of a course map can also be omitted. Furthermore, the display screen confuses very much and is unsightly, when the change means 10 was operated, a view position is changed, or a radar cover is changed, change operation is answered directly, for example, a view position and a radar cover are quickly changed per 1 / 60 seconds. Between the view impaction-efficiency period for 0.2 seconds - several seconds and the radar cover diakinesis stage is set up independently there beforehand, respectively, and it is desirable to perform view movement and to make a change of a radar cover smoothly, by linear interpolation, to a new view position or a radar cover, with the interpolation move section 132 while the output change from the change means 10 is disregarded between these diakinesis stages.

[0031] In addition, in this example, although the so-called drive game was explained, it is clear to this contractor that it is not restricted to this and can apply to all other games. Moreover, this invention is [0032]. [applicable to business-use things, such as a game center, at a general thing for home use]

[Effect of the Invention] As mentioned above, without using a reflector glass, according to the electronic play device of this invention, it crosses in all the directions other positions and sense of whose of a mobile of the player car circumference are 360 degrees, and can recognize immediately. Moreover, as the situation after the rear-end collision of the vehicle which clashed from behind is also intelligible in the game to enjoy and it is shown in drawing 5 (A) - (C) that you have made it made to crash enough, it is very easy to understand a distance relation with other vehicles, and a game can be enjoyed. Furthermore, since the coordinate transformation processing using three-dimensions polygon data like generation of a reflector glass dynamic image becomes unnecessary, the load of a microprocessor is mitigable.

TECHNICAL FIELD

[Industrial Application] Especially this invention relates the state of the effective circumference under movement to the so-called electronic play device which indicates by the radar map in piles in some animation screens main to the display screen, when a play person (it is hereafter called a player) controls mobiles, such

as a vehicle and an airplane, and does other mobiles and play about an electronic play device.

PRIOR ART

[Description of the Prior Art] When a player controls a mobile and considers play, such as a game, as other mobiles conventionally, the electronic play device indicates the whole move field of a mobile or the part of the circumference of it by the course map with a mobile, and it was made to transmit the positional information of the configuration of a course or other mobiles to a player correctly is proposed by these people (Japanese-Patent-Application-No. No. 279513 [four to] official report). Moreover, the electronic play device which provided the player with the display screen which carries out 3 dimensional calculation processing of the main animation screens of play from three-dimensions solid data, and has a cubic effect and a sense of reality more is also proposed by these people (Japanese-Patent-Application-No. No. 179040 [four to] official report).
[0003] Although move play is enjoyed carrying out 3 dimensional calculation processing and generating the main animation screens especially in this conventional electronic play device and a driving game is in one The vehicle which a player drives while displaying the miniature 220 of a drive course on a position with the circumference of the main animation screens 200 which are the visual field images from the view (or the back) of a player in this game, as shown, for example in drawing 6 (it is hereafter called a player car.) By carrying out the light-spot display 222 grade of 210 on the course, the current position on a course is shown in a player.

EFFECT OF THE INVENTION

[Effect of the Invention] As mentioned above, without using a reflector glass, according to the electronic play device of this invention, it crosses in all the directions other positions and sense of whose of a mobile of the player car circumference are 360 degrees, and can recognize immediately. Moreover, as the situation after the rear-end collision of the vehicle which clashed from behind is also intelligible in the game to enjoy and it is shown in drawing 5 (A) - (C) that you have made it made to crash enough, it is very easy to understand a distance relation with other vehicles, and a game can be enjoyed. Furthermore, since the coordinate transformation processing using three-dimensions polygon data like generation of a reflector glass dynamic image becomes unnecessary, the load of a microprocessor is mitigable.

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] In the conventional electronic play device which was mentioned above, it is required to supervise AZAKA 302 copied by the reflector glass 300 in order to know the situation around a player car, especially the move state of other vehicles (it is hereafter called AZAKA.)

acting as the obstacle of advance. However, if the data for an environmental display and mobile indicative datas, such as a drive course, are memorized by memory etc. as three-dimensions solid data (polygon data), carry out 3 dimensional calculation processing and the main animation screens come to be generated The image of a background reflected to a reflector glass 300 must also carry out 3 dimensional calculation processing of a huge amount. By the performance of the present processing unit (hereafter referred to as MPU), and an auxiliary processing unit (it is hereafter called a co-processor), it became impossible to generate both the screens of a front three-dimensions screen and the three-dimensions screen for reflector glasses on real time.
[0005] Moreover, at a reflector glass, only the situation in the field of view of a mirror was understood, but when the situation of AZAKA of the longitudinal direction which AZAKA in a back dead angle and right and left are running in parallel in the game to enjoy wanted to know throwing a vehicle or being thrown, there was also a trouble of understanding nothing. This invention is made from the above situations and the purpose of this invention is to offer the electronic play device which crosses quickly other surrounding positions and travelling direction of a mobile of a player car to a 360-degree omnidirection correctly, and was made to carry out radar display.

MEANS

[Means for Solving the Problem] This invention is a thing about an electronic play device. the above-mentioned purpose of this invention The mobile for players concerning play, and one or more of other mobiles of the circumference with the symbol of the aforementioned mobile for players While fixing the aforementioned symbol to the main display screens of play on the aforementioned display means in the electronic play device displayed on a display means in piles as a radar map One or more aforementioned radar cover information for radar maps is set up. Establish the change means operated by the aforementioned player and one of the aforementioned radar cover information is chosen based on the signal from the aforementioned change means. While changing the radar cover which carried out [aforementioned] selection according to change of the position and travelling direction accompanying advance of the play of the aforementioned mobile for players It is attained by moving and rotating relatively the mobile besides the above which entered in the aforementioned radar cover to the aforementioned symbol, and displaying on the aforementioned display means.

OPERATION

[Function] If it is in this invention, while the mobile for players is fixed on the display screen, and being able to change the detection range of a radar now by the change means, crossing to 360-degree omnidirection and approach of other mobiles and signs that it deserts being able to express intelligibly for a radar map, the operation time can be shortened sharply.

EXAMPLE

[Example] Hereafter, based on a drawing, the example of this invention is explained in detail. A drive game is explained as an example. In this invention, while displaying in piles the course map which shows the whole move field of a mobile to the position of an indicator-chart side as well as the former on the main animation pictures, a player car is fixed and displayed on another display position of the same display screen, and all AZAKA that invaded into the predetermined radar cover of the circumference of it is displayed with a position and travelling direction into a radar map centering on a player car fixed on display [above-mentioned]. Therefore, when a player advances play and a player car runs, while it turns out which position of the whole move field the self-vehicle is running on the course map, it can sense without a dead angle whether the other vehicles of a competitor are running to the right and left and back space near the circumference of a self-vehicle in the direction of how many sets and which, and the key which builds the optimal play strategy is acquired.

[0009] Drawing 1 is the block diagram showing one example of the hardware composition in the electronic play device of this invention. In this drawing, while MPU102 reads and performs a play program from ROM106 in which a game program and data were written, various data, such as the progress, score, etc., are written by reading and RAM106. A co-processor 104 operates synchronizing with MPU102, works especially as assistance of numerical calculation, and calculates coordinate transformation etc. at high speed. The control unit 10 which consists of a change means, an accelerator, handles, etc., such as a push button formula radar cover / view, is connected to the data-processing section 100 by using the input interface 110 as an entrance, and the operation of a player is inputted into MPU102 through a control unit 10 and the input interface 110. The ODI signal which sound equipment 108 generated a predetermined sound effect, an alarm tone, artificial-voice instructions, etc. based on directions of MPU102, and was generated there is amplified by the audio amplifier which is not illustrated, and an audio output is carried out through the loudspeaker 20 connected to the data-processing section 100.

[0010] In the memory which carried out the deer and was built in the data-processing section 100 The environmental PORIKON data memory 120 for expressing three-dimensions play environment, such as a drive course, as a color three-dimensions solid of a polyhedron, The data memory 122 for player cars which memorizes the current position under movement of the three-dimensions solid data for a player car display and a player car, travelling direction, speed, etc., Usually, as for RAM/ROM106, the data memory 124 for AZAKA which memorizes two or more three-dimensions solid data for an AZAKA display of a base, current positions of each AZAKA, speed, etc. is formed independently.

[0011] Furthermore, the view position data memory 130 which pinpoints the view position chosen by the change means 10, The radar contact range data memory 130 for specifying the radar cover in which change selection is similarly carried out by the change means 10 is also built in the data-processing section 100.

When a view/radar cover changes by the change means 10, so that the shift to these change positions may be smoothly displayed on the display screen The output data of data memory 130 are written in the parameter memory 140 for animation generation, the parameter memory 144 for radar maps, and the parameter memory 142 grade for course maps through the interpolation move section 132.

[0012] Moreover, while three-dimensions solid data are suitably extracted from memory 120, 122, and 124 and are written in the parameter memory 140 for animation generation, current position data, travelling-direction data, etc. of a player car and AZAKA are extracted from data memory 122 and 124, it is written in the parameter memory 144 for radar maps, and course map data and the current position data of a player car are further written in the parameter memory 142 for course maps by MPU102.

[0013] If view position data, three-dimensions polygon data, the current position data of a mobile, radar contact range data, etc. are stored in the parameter memory 140 and 142, while three-dimensions polygon data etc. will be projected on display system of coordinates by coordinate transformation equipment 150 in this way, the depth data of each polygon are called for and the 2-dimensional polygon data for a display sorted by depth data are outputted to polygon paint equipment 152.

[0014] Furthermore, color coating processing in a 2-dimensional polygon etc. is performed, the result is written in a frame memory 154, and the content of a frame memory 154 is read one by one at a television rate, is changed into a video signal by the DA translation means which is not illustrated, and is expressed to the monitor TV 30 which is a display means as polygon paint equipment 152.

[0015] Next, view change / setting operation and radar cover change / setting operation by the change means 10 are explained. First, the view of a display image is changed based on the intention of a player, and a game start switch may be made to arrange the change means 10 in parallel, and it may be established, or may be made to use also [switch / game start], or you may make it equip a handle with it in view change operation in which the change meanses 10, such as a pushdown switch, were used.

[0016] A deer is carried out, two or more cockpits of a player car are beforehand chosen as a reference point, and the view position which makes a change change sets them up, as shown in drawing 2 . This drawing shows the example which set up four views as an example, and, for view **, "a little the back of a self-vehicle" and view ** are ["the back low altitude of a self-vehicle" and view ** of "the view of a player" and view **] "the back altitude of a self-vehicle." The concrete three-dimensions coordinate to each [these] view which made the cockpit of a player car the zero is written in the view position data memory 130 as a relative-position vector value. and only the number of views prepares a pushdown switch in parallel as a change means 10, each switch may be made to correspond to view ** - **, respectively, one circuit changing switch is prepared, and this switch is pushed -- ** -- it is alike and the view changes sequentially -- him (for example, view **-> view **-> view **-> view **-> view **) -- ******** -- it is

good
[0017] A radar cover is changed based on the intention of a player, and a game start switch may be made to arrange this change means 10 in parallel, and it may be established, or may be made to use also [circuit changing switch / view / a game start switch or], or you may make it equip a handle with it on the other hand by radar cover change operation in which the change meanses 10, such as a pushdown switch, were used. And as a reference point, two or more ranges are chosen and the radar cover which makes a change change sets up the cockpit of a player car beforehand, as shown in drawing 7 . This drawing shows the example which carried out 4 setting outs of the radar cover as an example, and is the example set up so that the detection range might be spatially expanded one by one towards partition ** to **. The concrete three-dimensions coordinate to each [these] detection partition is written in the radar contact range data memory 130 as a relative-position vector value by making the cockpit of a player car into a zero. And whenever only the number of radar covers prepares a pushbutton switch in parallel as a change means 10, and it may make each switch correspond to detection range ** - **, respectively, it prepares a circuit changing switch and it pushes this switch, the detection range may change sequentially and may make it like (for example, partition **-> partition **-> partition **-> partition **-> partition **).
[0018] If an accelerator will be first stepped on by the player if the operation is explained with reference to a drawing, and a drive game etc. is started in such composition The direction of an accelerator and a handle is checked by MPU102 through the change means 10 and the input interface 110 for every predetermined period (in for example, 1 / 60-second unit). The current position and travelling-direction data under course movement of a player car are changed, and the content of the data memory 122 for player cars is updated. On the other hand, two or more current positions and travelling-direction data of AZAKA which have participated in this drive game are also updated to this timing, respectively, and the content of the data memory 124 for AZAKA is rewritten.
[0019] Next, the output of the change means 10 is inputted into MPU102, and while it is confirmed whether change operation of a view position was performed, it is confirmed whether change operation of a radar cover was performed.
[0020] For example as default data, the interpolation move section 132 does not operate, but if neither of the change operations is performed, since view position ** and radar contact partition ** were chosen and there was no change operation this time, while the three-dimensions data of view position ** are read from data memory 130 and written in the parameter memory 140 for an environmental display, the three-dimensions data of radar contact partition ** are read from data memory 130, and it is written in the parameter memory 144 for radar maps.
[0021] Next, MPU102 performs three-dimensions animation generation processing. In this processing, the check of the three-dimensions polygon data for animation display stored in data memory 120 or 124 by MPU102 is performed first, all the possible three-dimensions polygons of watching from view position ** on the basis of a player car at present are extracted, and it is written in the

parameter memory 140 for animation generation. If this processing sets the direction vector of the view for example, in view position ** to v and normal BEKUTORI of a three-dimensions polygon is set to n, it should just extract the three-dimensions polygon data with which are satisfied of the following formula by MPU102.

[0022]

[Equation 1] Hide v-n>0 and all the three-dimensions solid data stored in the environmental polygon data memory 120, the data memory 122 for player cars, and the data memory 124 for AZAKA are checked. If the possible three-dimensions polygon of watching from at present view position ** is extracted The distance between these three-dimensions polygons and view position ** (or depth data) is calculated by MPU102, and it receives in each field-of-view direction. Based on depth data, an above-mentioned three-dimensions polygon is sorted so that only the polygon respectively near view position ** may remain, and the parameter memory 140 for animation generation restores.

[0023] After an appropriate time, the three-dimensions polygon data by which the view position vector and the **** were sorted with coordinate transformation equipment 150 are read from the parameter memory 140 for animation generation, an animation generation operation is performed, the 2-dimensional polygon data for a display are generated, and it is transmitted to polygon paint equipment 152. Furthermore, with polygon paint equipment 152, if the wireframe data of the 2-dimensional polygon for a display are received, it will smear away for color information, such as a hue which had the interior specified, saturation, and lightness, and the 2-dimensional polygon which carried out color coloring will be written in a frame memory 154. This situation is shown in 200 of drawing 4 . In this way, three-dimensions dynamic-image generation processing of the environment in view position ** and a mobile is completed.

[0024] Then, MPU102 performs course map generation processing. In this processing, while 2-dimensional course map data are extracted from the environmental polygon data memory 120 and written in the parameter memory 142 for course maps, the current position data of a player car and the player car symbol data for course maps are extracted from the data memory 122 for player cars, and it is written in the parameter memory 142 for course maps.

[0025] After an appropriate time, above-mentioned 2-dimensional course map data are changed into the position of the display screen by coordinate transformation equipment 150, coloring processing is further carried out by polygon paint equipment 152, and it is written in a frame memory 154. This situation is shown in 220 of drawing 4 . Moreover, it is changed into the position on a course map by coordinate transformation equipment 150, coloring processing is carried out by polygon paint equipment 152, and a player car symbol is also written in a frame memory 154. This situation is shown in 222 of drawing 4 .

[0026] Next, MPU102 performs radar map generation processing. In this processing, already, turning on and off of the radar cover change means 10 is checked in the parameter memory 144 for radar maps, and the detection space data of radar contact partition ** are written in it. Then, while the current position

of player car P-CAR and the player car symbol data for radar maps are read from the data memory 122 for player cars and being first written in the parameter memory 144 for radar maps, radar contact partition ** on the basis of P-CAR is set up (Step S2).
[0027] Next, the radar scope when looking at this detection partition ** from the view position of a predetermined distance over P-CAR is calculated for a predetermined scale factor by coordinate transformation equipment 150, and is written in the position of a frame memory 154 through polygon paint equipment 152 (step S4). It is shown in the rectangle 230 at the upper right of drawing 4 by making this situation into an example. Then, after player car symbol data are read from the parameter memory 144 for radar maps by coordinate transformation equipment 150 and are carried out in predetermined coordinate transformation, coloring processing is carried out by polygon paint equipment 152, and it is written in the radar map mid gear of a frame memory 154 (Step S6). It is shown in 232 of drawing 4 by making this situation into an example.
[0028] In this way, after the current position of a player car and initial setting of radar contact partition ** are completed, it checks [whether radar contact can be carried out and] to all AZAKA O-CAR. First, the current position of the first O-CAR is read from the data memory 124 for AZAKA (Step S8), and the relative position of this O-CAR and P-CAR is calculated by MPU102 (Step S10). Then, it checks (Step S12), and if it is within the limits of partition ** whether the above-mentioned relative position is contained in the range of radar contact partition **, it will read AZA car symbol data from the data memory 124 for AZAKA with the position of AZAKA, and travelling direction, and will write in the parameter memory 144 for radar maps. Next, if coordinate transformation equipment 150 was started, after AZA car symbol data will be read with the current position and travelling-direction data and will be carried out in predetermined coordinate transformation, coloring processing is carried out by polygon paint equipment 152, and it is written in a frame memory 154 (Step S14). It is shown in 234 of drawing 4 by making this situation into an example.
[0029] On the other hand, if radar contact section ** is out of range, the above-mentioned AZAKA display step S14 will be skipped, and it will be confirmed whether radar contact processing was completed to all O-CAR (Step S16). And if the radar contact processing to all O-CAR is not completed, the current position of following O-CAR is read from the data memory 124 for AZAKA (Step S18), and it returns to Step S10. On the other hand, after the radar contact processing to all O-CAR is completed, a radar map display routine is ended. Henceforth, animation generation processing, above-mentioned course map display processing, and above-mentioned radar map display processing are repeated by predetermined every time (for example, 1 / 60 seconds).
[0030] In addition, although above-mentioned explanation explained the radar cover as a space partition of a rectangular parallelepiped as shown in drawing 7 , the radar cover of globular form or ellipse type is also employable. Moreover, although above-mentioned explanation explained the example as which both display a course map and a radar map on the main animation screens in piles, the display of a course map can also be omitted. Furthermore, the display screen

confuses very much and is unsightly, when the change means 10 was operated, a view position is changed, or a radar cover is changed, change operation is answered directly, for example, a view position and a radar cover are quickly changed per 1 / 60 seconds. Between the view impaction-efficiency period for 0.2 seconds - several seconds and the radar cover diakinesis stage is set up independently there beforehand, respectively, and it is desirable to perform view movement and to make a change of a radar cover smoothly, by linear interpolation, to a new view position or a radar cover, with the interpolation move section 132 while the output change from the change means 10 is disregarded between these diakinesis stages.

[0031] In addition, in this example, although the so-called drive game was explained, it is clear to this contractor that it is not restricted to this and can apply to all other games. Moreover, this invention is applicable also to business-use things, such as a game center, also at a general thing for home use.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing an example of the hardware composition of the electronic play device of this invention.

[Drawing 2] It is drawing showing an example of the view positioning part in the electronic play device of this invention.

[Drawing 3] It is the flow chart which shows the display procedure of the radar map in the electronic equipment of this invention.

[Drawing 4] It is drawing showing the example of the display screen in one example of the electronic play device of this invention.

[Drawing 5] It is drawing showing the state where the movement of other vehicles is caught by the radar.

[Drawing 6] It is drawing showing the example of the conventional display screen with a reflector glass dynamic image.

[Drawing 7] It is drawing showing an example of the radar cover setting space used by this invention.

[Description of Notations]

10 Control Unit
20 Loudspeaker
30 Monitor TV
100 Data-Processing Section
102 MPU
106 ROM/RAM
110 Input Interface
120,122,124 Data memory
130 Radar Cover / View Position Data Memory
132 Interpolation Move Section
140,142,144 Parameter memory
150 Coordinate Transformation Equipment

152 Polygon Paint Equipment
154 Frame Memory

CORRECTION or AMENDMENT

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[Procedure amendment 1]
[Document to be Amended] Specification.
[Item(s) to be Amended] Claim.
[Method of Amendment] Change.
[Proposed Amendment]
[Claim(s)]
[Claim 1] In the electronic play device which displays the mobile for players concerning play, and one or more of other mobiles of the circumference on a display means in piles as a radar map with the symbol of the aforementioned mobile for players at the main display screens of play
While fixing the aforementioned symbol on the aforementioned display means, one or more aforementioned radar cover information for radar maps is set up. Establish the change means operated by the aforementioned player and one of the aforementioned radar cover information is chosen based on the signal from the aforementioned change means. While changing the radar cover which carried out [aforementioned] selection according to change of the position and travelling direction accompanying advance of the play of the aforementioned mobile for players The electronic play device characterized by moving and rotating relatively the mobile besides the above which entered in the aforementioned radar cover to the aforementioned symbol, and making it display on the aforementioned display means.
[Claim 2] The electronic play device according to claim 1 which made different

color the foreground color of the aforementioned symbol, and the foreground color of the mark for mobiles besides the above.
[Claim 3] The electronic play device according to claim 1 or 2 to the aforementioned change means which chose the aforementioned radar cover information in specific sequence for every operation.
[Claim 4] The electronic play device according to claim 1 to 3 which change of a display visual field advances continuously gradually, and the change of a radar cover ends in case the display screen changes from the radar cover which has answered the operation to the aforementioned change means to other radar covers.
[Claim 5] It is the electronic play device which displays the radar map which displays the fixed range containing the mobile for players concerning play on some play screens.
It sets up possible [a change of the radar cover of size plurality which contains the aforementioned mobile for players beforehand].
The electronic play device characterized by what the aforementioned mobile for players in the radar cover changed corresponding to the change of the aforementioned radar cover and other mobiles are symbol-ized, and is displayed on the aforementioned radar map.
[Claim 6] It is the electronic play device which displays the radar map which displays the fixed range containing the mobile for players concerning play on some play screens.
While setting up possible [a change of two or more views which contain the aforementioned mobile for players in a visual field beforehand], the radar cover is matched for every view.
The electronic play device characterized by what the inside of the new radar cover set up corresponding to the change of the aforementioned view is calculated for a predetermined scale factor, the aforementioned radar map is formed, and the aforementioned mobile for players and other mobiles are symbol-ized, and are displayed for into this radar map.
[Claim 7] The electronic play device according to claim 5 or 6 characterized by what the foreground color of the symbol of the aforementioned mobile for players and the foreground color of the symbol of the above and other mobiles are made into different color for.
[Claim 8] The symbol of the aforementioned mobile for players is an electronic play device according to claim 5 to 7 characterized by what the display position is being fixed for in the aforementioned radar map.
[Claim 9] It is the electronic play device according to claim 5 to 7 by which, as for the symbol of the aforementioned mobile for players, a display position is fixed in the aforementioned radar map, and the symbol of the above and other mobiles is characterized by what a position and travelling direction are displayed for into the aforementioned radar map focusing on the symbol of this mobile for players.
[Claim 10] The electronic play device according to claim 5 to 9 by which the aforementioned radar map is characterized by what is displayed on a part of main display screen of play in piles.
[Claim 11] The electronic play device according to claim 5 to 10 by which the

aforementioned radar map is characterized by what is displayed on a part of main display screen of play in predetermined size.
[Claim 12] It is the image display method of the electronic play device which displays the mobile for players concerning play, and one or more of other mobiles of the circumference on a play screen in piles as a radar map with the symbol of the aforementioned mobile for players.
While fixing the symbol of the aforementioned mobile for players on the aforementioned radar map, one or more aforementioned radar cover information for radar maps is set up.
Based on operation of the aforementioned player, one of the aforementioned radar cover information is chosen.
The radar cover which carried out [aforementioned] selection according to change of the position and travelling direction accompanying advance of the play of the aforementioned mobile for players is changed.
The mobile besides the above which entered in the aforementioned radar cover is relatively moved and rotated to the symbol of the aforementioned mobile for players, and it displays on the aforementioned radar map.
The image display method of the electronic play device characterized by things.
[Claim 13] Furthermore, the image display method of the electronic play device according to claim 12 characterized by what the foreground color of the aforementioned symbol and the foreground color of the mark for mobiles besides the above are displayed for as different color.
[Claim 14] Furthermore, the image display method of the electronic play device according to claim 12 or 13 characterized by what the aforementioned radar cover information is chosen for in specific sequence for every operation of the aforementioned player.
[Claim 15] Furthermore, the image display method of the electronic play device according to claim 12 to 14 which change of a display visual field advances continuously gradually, and the change of a radar cover ends in case the display screen changes from the radar cover which has answered operation of the aforementioned player to other radar covers.
[Claim 16] It is the image display method of the electronic play device which displays the radar map which displays the fixed range containing the mobile for players concerning play on some play screens.
It sets up possible [a change of the radar cover of size plurality which contains the aforementioned mobile for players beforehand].
The image display method of the electronic play device characterized by what the aforementioned mobile for players in the radar cover changed corresponding to the change of the aforementioned radar cover and other mobiles are symbolized, and is displayed on the aforementioned radar map.
[Claim 17] It is the image display method of the electronic play device which displays the radar map which displays the fixed range containing the mobile for players concerning play on some play screens.
While setting up possible [a change of two or more views which contain the aforementioned mobile for players in a visual field beforehand], the radar cover is matched for every view.

The image display method of the electronic play device characterized by what the inside of the new radar cover set up corresponding to the change of the aforementioned view is calculated for a predetermined scale factor, the aforementioned radar map is formed, and the aforementioned mobile for players and other mobiles are symbol-ized, and are displayed for into this radar map.
[Claim 18] Furthermore, the image display method of the electronic play device according to claim 16 or 17 characterized by what the foreground color of the symbol of the aforementioned mobile for players and the foreground color of the symbol of the above and other mobiles are made into different color for.
[Claim 19] Furthermore, the image display method of the electronic play device according to claim 16 to 18 characterized by what the display position in the aforementioned radar map of the symbol of the aforementioned mobile for players is fixed for.
[Claim 20] Furthermore, the image display method of the electronic play device according to claim 16 to 18 characterized by what the display position in the aforementioned radar map of the symbol of the aforementioned mobile for players is fixed, and the position of the symbol of the mobile of others in the aforementioned radar map and the display of travelling direction are performed for focusing on the symbol of the mobile for players by which fixation was carried out [aforementioned].
[Claim 21] Furthermore, the image display method of the electronic play device according to claim 12 to 20 characterized by what the aforementioned radar map is displayed for on a part of main display screen of play in piles.
[Claim 22] Furthermore, the image display method of the electronic play device according to claim 12 to 21 characterized by what the aforementioned radar map is displayed for on a part of main display screen of play in predetermined size.
[Claim 23] The information record medium which recorded the program as which a computer system is operated as an electronic play device according to claim 1 to 11.
[Claim 24] The information record medium which recorded the program which performs the image display method of an electronic play device according to claim 12 to 22 on the computer system.
[Procedure amendment 2]
[Document to be Amended] Specification.
[Item(s) to be Amended] 0006.
[Method of Amendment] Change.
[Proposed Amendment]
[0006]
[Means for Solving the Problem] This invention is a thing about an electronic play device. the above-mentioned purpose of this invention The mobile for players concerning play, and one or more of other mobiles of the circumference with the symbol of the aforementioned mobile for players While fixing the aforementioned symbol to the main display screens of play on the aforementioned display means in the electronic play device displayed on a display means in piles as a radar map One or more aforementioned radar cover information for radar maps is set up. Establish the change means operated by the aforementioned player and one

of the aforementioned radar cover information is chosen based on the signal from the aforementioned change means. While changing the radar cover which carried out [aforementioned] selection according to change of the position and travelling direction accompanying advance of the play of the aforementioned mobile for players It is attained by moving and rotating relatively the mobile besides the above which entered in the aforementioned radar cover to the aforementioned symbol, and displaying on the aforementioned display means. Moreover, what the electronic play device of this invention sets up the radar cover of size plurality which contains the above-mentioned mobile for players beforehand possible [a change] in the electronic play device which displays the radar map which displays the fixed range containing the mobile for players concerning play on some play screens, symbol-izes the above-mentioned mobile for players in the radar cover changed corresponding to the change of the above-mentioned radar cover and other mobiles, and displays them for on the above-mentioned radar map carries out as the feature. Moreover, the electronic play device of this invention is set to the electronic play device which displays the radar map which displays the fixed range containing the mobile for players concerning play on some play screens. While setting up possible [a change of two or more views which contain the above-mentioned mobile for players in a visual field beforehand], the radar cover is matched for every view. The inside of the new radar cover set up corresponding to the change of the above-mentioned view is calculated for a predetermined scale factor, the above-mentioned radar map is formed, and it is characterized by what the above-mentioned mobile for players and other mobiles are symbol-ized, and are displayed for into this radar map. It is characterized by what the foreground color of the symbol of the above-mentioned mobile for players and the foreground color of the symbol of the above and other mobiles are preferably made into different color for. Preferably, the symbol of the above-mentioned mobile for players is characterized by what the display position is being fixed for in the above-mentioned radar map. Preferably, as for the symbol of the above-mentioned mobile for players, a display position is fixed in the above-mentioned radar map, and the symbol of the above and other mobiles is characterized by what a position and travelling direction are displayed for into the above-mentioned radar map focusing on the symbol of this mobile for players. Preferably, the above-mentioned radar map is characterized by what is displayed on some of main screens of play in piles. Preferably, the above-mentioned radar map is characterized by what is displayed on a part of main display screen of play in predetermined size. The image display method of the electronic play device of this invention the mobile for players concerning play, and one or more of other mobiles of the circumference with the symbol of the above-mentioned mobile for players In the image display method of the electronic play device displayed on a play screen in piles as a radar map, while fixing the symbol of the above-mentioned mobile for players on the above-mentioned radar map One or more above-mentioned radar cover information for radar maps is set up. Based on operation of the above-mentioned player, one of the above-mentioned radar cover information is chosen. The radar cover which carried out [above-mentioned] selection according to change of the position and

travelling direction accompanying advance of the play of the above-mentioned mobile for players is changed. It is characterized by what the mobile besides the above which entered in the above-mentioned radar cover is relatively moved and rotated to the symbol of the above-mentioned mobile for players, and is displayed on the above-mentioned radar map. Preferably, the foreground color of the above-mentioned symbol and the foreground color of the mark for mobiles besides the above are further displayed as different color. Preferably, the above-mentioned radar cover information is further chosen in specific sequence for every operation of the above-mentioned player. In case the display screen changes from the radar cover which has answered operation of the above-mentioned player to other radar covers further preferably, change of a display visual field advances continuously gradually, and the change of a radar cover is completed. Moreover, the image display method of the electronic play device of this invention In the image display method of the electronic play device which displays the radar map which displays the fixed range containing the mobile for players concerning play on some play screens It sets up possible [a change of the radar cover of size plurality which contains the above-mentioned mobile for players beforehand]. It is characterized by what the above-mentioned mobile for players in the radar cover changed corresponding to the change of the above-mentioned radar cover and other mobiles are symbol-ized, and is displayed on the above-mentioned radar map. Moreover, the image display method of the electronic play device of this invention In the image display method of the electronic play device which displays the radar map which displays the fixed range containing the mobile for players concerning play on some play screens While setting up possible [a change of two or more views which contain the above-mentioned mobile for players in a visual field beforehand], the radar cover is matched for every view. The inside of the new radar cover set up corresponding to the change of the above-mentioned view is calculated for a predetermined scale factor, the above-mentioned radar map is formed, and it is characterized by what the above-mentioned mobile for players and other mobiles are symbol-ized, and are displayed for into this radar map. Preferably, the foreground color of the symbol of the above-mentioned mobile for players and the foreground color of the symbol of the above and other mobiles are further made into different color. Preferably, the display position in the above-mentioned radar map of the symbol of the above-mentioned mobile for players is fixed further. Preferably, further, the display position in the above-mentioned radar map of the symbol of the above-mentioned mobile for players is fixed, and the position of the symbol of the mobile of others in the above-mentioned radar map and the display of travelling direction are performed focusing on the symbol of the mobile for players by which fixation was carried out [above-mentioned]. Preferably, it is further characterized by what the above-mentioned radar map is displayed for on some of main screens of play in piles. Preferably, the above-mentioned radar map is further characterized by what is displayed on a part of main display screen of play in predetermined size. Moreover, this invention relates to the information record medium which recorded the program operated as an electronic play device which mentioned the computer system above.

Moreover, this invention relates to the information record medium which recorded the program which performs the image display method of the electronic play device mentioned above to the computer system.